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**REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed April 9, 2003. That Office Action notes that claims 1-7 are pending and rejects claims 1-7. By this amendment, claims 1-7 are amended and new claims 8-15 are added. As explained below, all of the pending claims are patentable.

**DRAWING AND CLAIM OBJECTIONS**

The Office Action objects to the drawings under 37 CFR 1.83(a) because claim 4 recites a "cross-section whose internal outline has a long axis/short axis ratio which first increases, goes through a maximum and then decreases" that is not shown. The Office Action also objects to claim 4 because the cross-section was unclear.

In response, claim 4 is amended to refer to an electron beam envelop cross-section. That amendment fully addresses the drawing objections and the objection to claim 4. Applicant notes that a beam envelop and its cross-section are fully supported, reference Fig. 4A, Fig. 4b and the supporting text beginning on line 17 of page 5. Accordingly, withdrawals of the objections to the drawings and to claim 4 are respectfully requested.

**35 U.S.C. §102(e) REJECTIONS OF CLAIMS 1-3; AND  
35 U.S.C. §103(a) REJECTIONS OF CLAIMS 5-6**

The Office Action rejects claims 1-3 under 35 U.S.C. §102(e) over Sano (U.S. Patent No. 6,307,314, issued October 23, 2001, hereinafter "Sano"), and further rejects claims 5 and 6 under 35 U.S.C. §103(a) over Sano.

Claim 1, as amended, recites deflecting an electron beam "in a line direction that is substantially parallel with said short axis and in a frame direction that is substantially parallel with said long axis", something that is not taught or suggested in Sano. Claim 1 further recites that part of a cone portion under a deflection system "has at least one cross-section whose internal outline has a long axis/short axis ratio ( $A_c$ ) which is larger than or equal to the long axis/short axis ratio ( $A_{scr}$ ) of the display screen", something else that is not taught or suggested in Sano. Therefore, for at least those reasons, independent claim 1 and its dependent claims 2-3 and 5 and 6 are allowable.

The Office Action asserts that Sano at column 6, lines 45+ discloses deflecting electron beams along lines substantially parallel to the short axis of the display screen. However, Sano is understood as teaching vertically sweeping electron beams that are

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scanned horizontally. Such a scanning technique is referred to in the subject application as a normal scan. Nevertheless, for clarity, claim 1 is amended to positively recite that the electron beam is line scanned vertically.

The Office Action asserts that Sano at column 10, lines 60+ discloses that part of a cone portion that is under a deflection system has at least one cross-section whose internal outline has a long axis/short axis ratio which is larger than or equal to the long axis/short axis ratio[n] of the display screen. However, column 10, lines 60+ relate to a yoke portion Y having a dimension that is *assumed* to substantially coincide with that of the phosphor screen (which is assumed to be 4:3). Continuing, at column 10, line 63+, Sano provides that the *outer surface* of the yoke portion is 35.00 mm long and 28.4 mm wide. That yields an aspect ratio of  $35.00/28.4 = 1.23$ , which is significantly less than  $4/3 = 1.33$ .

On page 5 of the Office Action the Examiner uses an incorrect denominator (it should be 56.8 rather than 36.8). Thus, regarding a limitation in claim 3  $[(A_c - 1)/(A_{scr} - 1) \geq 1]$ , using the dimensions provided by Sano, the math is  $(1.23 - 1)/(1.33 - 1) = (.23/.33) = .70$ , which is less than 1.1.

Accordingly, withdrawal of the 35 U.S.C. §102(e) rejections of claims 1-3 and the 35 U.S.C. §103(a) rejections of claims 5-6 are respectfully requested.

#### 35 U.S.C. §103(a) REJECTION OF CLAIM 4

The Office Action rejects claim 4 under 35 U.S.C. §103(a) over Sano in view of Tsuneta et al. (U.S. Patent No. 3,731,129, issued May 1, 1973). Claim 4 is amended to address a claim objection in a manner such that a cross-section of a *beam envelop* is recited, rather than the cross-section of a display screen. Tsuneta does not teach an electron beam profile, and thus the 35 U.S.C. §103(a) rejection of amended claim 4 is moot. Accordingly, withdrawal of the 35 U.S.C. §103 rejection of claim 4 is respectfully requested.

While amending claim 4 fully addresses the specific 35 U.S.C. §103 rejection, applicants do not understand Tsuneta as teaching the invention defined by original claim 4. Indeed, the aspect ratio of the display in Tsuneta does not have to change as that display's cross-section changes from circular to rectangular. Therefore, Applicants expressly reserve the right to address the ground for rejecting claim 4 at a later time.

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**35 U.S.C. §103(a) REJECTION OF CLAIM 7**

The Office Action rejects claim 7 under 35 U.S.C. §103(a) over Sano in view of New (U.S. Patent No. 6,465,944) issued October 15, 2002, hereinafter "New"). Claim 7 includes all limitations of its base claim 1. As provided above, Sano does not teach either transpose scanning or a cone portion under a deflection system having at least one cross-section whose internal outline has a long axis/short axis ratio ( $A_c$ ) which is larger than or equal to the long axis/short axis ratio ( $A_{scr}$ ) of the display screen. Furthermore, as best understood, New does not teach or suggest such limitations either. Accordingly, withdrawal of the 35 U.S.C. §103 rejection of claim 7 is respectfully requested.

**NEW CLAIMS**

New claims 8-15 are added. Those claims are allowable for at least the reason that they recite a specified electron beam envelope and scanning in a line direction that is substantially parallel with a short axis (transpose scanning). Accordingly, allowance of new claims 8-15 is respectfully requested.

**CONCLUSION**

In view of the foregoing, the Applicant believes that the subject application is in condition for allowance. Applicant requests the Examiner to reconsider and reexamine the subject application. An early, favorable action is respectfully solicited.

If the Examiner deems that a telephone call would further the prosecution of this application, the Examiner is invited to call Mr. Eric Bram at (914) 333-9635. All correspondence should continue to be sent to the address of record (not to the signing attorney).

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If these papers are not considered timely filed by the United States Patent and Trademark Office, or if any additional fees are required, kindly charge that fee to deposit account number 20-0782.

Respectfully submitted,

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